000043227 ERPO Records (2)

30E ORDER# 4900.1

O!"TGOING LTR NO.

G&G ROCKY FLATS, INC. IOCKY FLATS PLANT, P.O. BOX 464, GOLDEN, COLORADO 80402-0464 • (303) 966-7000

September 14, 1994

94-RF-09565

: Lockhart

Project Manager for Environmental Restoration Program Division

EG&G ROCKY FLATS

DOE, RFFO

Attn: D. George, Operable Unit 11 Project Manager

NOTIFICATION OF COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE) FOR THE ABANDONMENT OF WELL 4986 AND REPLACEMENT BY WELLS 51494 AND 51594 BY SEPTEMBER 21, 1994 - LAG-054-94

Action: Notify Dr. Frederick R. Dowsett

The purpose of this letter is to request that the Department of Energy, Rocky Flats Field Office notify Dr. Frederick R. Dowsett, CDPHE, of the abandonment of Well 4986, at the following address:

Frederick R. Dowsett, PhD, Section Chief, Monitoring and Enforcement, Colorado Department of Public Health and Environment, HMWMD-HWC-B2, 4300 Cherry Creek Drive South, Denver, Colorado 80222-1530

Well 4986 is part of the Operable Unit 11 (OU11), the West Spray Field, list of annual Reserve Conservation and Recovery Act (RCRA) reporting wells. Well 4986 was constructed in 1986 with a screened interval from 4.1 to 67.6 feet in the Rocky Flats Alluvium. Recently two groundwater monitoring wells were installed in OU11, approximately 10 feet from Well 4986, as part of a RCRA combined Phase I Remedial Field Investigation/Remedial Investigation (RFI/RI). These wells are 51494 and 51594 which are screened from 48.7 to 68.7 and 12.0 to 22.0 feet, respectively.

Perched groundwater was observed in Well 51594; therefore, Well 4986 may act as a conduit for the intermixing of groundwater from two alluvial water bearing strata. This is a criteria for well abandonment at Rocky Flats, in accordance with U.S. Department of Energy (DOE) Order 5400.1, plant protection. Attached are well construction diagrams for each well and the geologic log for the deeper boring (51494). Well 4986 is proposed for abandonment by September 30, 1994, in accordance with applicable State of Colorado and

94 RF095	6	5
DIST.	LTF	E
AMARAL, M.E.	7	1
AMARAL, M.E. BURLINGAME, A.H.	1	1
BUSBY, W.S.	+-	+
BRANCH, D.B.	o	1
CARNIVAL, G.J.	十	†
DAVIS, J.G.	+-	1
FERRERA, D.W.	+-	+
FRAY, R.E.	†:	+
GEIS, J.A.	+	+
GLOVER, W.S.	+-	+-
GOLAN, P.M.	+-	+-
HANNI, B.J.	+-	┿
HARMAN, L.K.	┯	┿
HEALY, T.J.	+-	┿
HEDAHL, T.	┰	╁
HILBIG, J.G.	┿	╀
HUTCHINS, N.M.	╁╌	╁
JACKSON, D.T.	┿	╁
	+	+
KELL, R.E. KUESTER, A.W.	-	╂
MARX. G.E.	╁	╂
McDONALD, M.M.	-	╁╴
MCDUNALU, M.M.	┼	╁
McKENNA, F.G.	+	╀
MONTROSE, J.K.	 	╀
MORGAN, R.V.	↓_	╄
POTTER, G.L.	-	ļ
PIZZUTO, V.M.	1.	1
RISING, T.L.	1_	1
SANDLIN, N.B.	↓	L
SCHWARTZ, J.K.	1	1_
SETLOCK, G.H.	↓	<u>L</u>
STEWART, D.L.	<u> </u>	┖
STIGER, S.G.	X	_
TOBIN, P.M.	_	\perp
VOORHEIS, G.M.	1	<u>L</u>
WILSON, J.M.	Ι	<u> </u>
Browsord M.C	X.	
Gregory-Front &A	V.	
O'WE'LL KK	V	
	T	
	Π	
	Π	Г
	П	Γ
CORRES, CONTROL	X	X
N RECORD/080	X	V
TOACCIO	7	~

CLASSIFICATION:

TRAFFIC PATS/T130G

-UCNI	
UNGLASSIFIED	
CONFIDENTIAL	
SECRET	1.

AUTHORIZED CLASSIFIER
SIGNATURE
CUMENT CLASSIFICATION
REVIEW WATER FER
DATE

IN REPLY TO REP. GC NO:

ACTION ITEM STATUS
D PARTIAL/OPEN D CLOSED LTR APPROVALS:

ORIG & TYPIST INITIALS

F. Lockhart September 14, 1994 94-RF-09565 Page 2

plant requirements by the 1994 Well Abandonment and Replacement Program. Therefore, please notify Dr. Frederick R. Dowsett for his concurrence on or before September 21, 1994, to meet the September 30 deadline.

If you have any questions please contact Mark Wood at extension 8784 or Kelly O'Neill at extension 8665.

2.a. gregory - Frost

L. A. Gregory-Frost Field Operations Manager

MRW:bk

Attachment:

At Stated

cc:

N. Castenada - DOE, RFFO (w/o attach.)

J. Dion - DOE, RFFO (w/o attach.)

J. M. Roberson - DOE, RFFO (w/o attach.)

M. N. Silverman - DOE, RFFO (w/o attach.)

U.S. Department of Energy Rocky Flate Plant

ERPD/EOM

Attachment 1 LAG-054-94 Page**Fdrm &T&B**

Groundwater Monitoring Well and Plezometer Report ORR 3/3/144
SCREENED FORMATION: Alluvium DRILLING CONTRACTOR: Water Development Corp
RIG GEOLOGIST: Jennier Hooling Date Completed: 03094
SCREENED FORMATION: Alluyium DRILLING CONTRACTOR: Water Deutopment Conditions of Condi
QUANTITY OF FLUIDS LOST INITIAL WATER LEVEL (FT): 5R.RA DATE MEASURED. DATE MEASURED.
DURING DRILLING (GAL): COMPLETED WATER LEVEL (FT): 52 165 DATE MEASURED: 06 5094
PROTECTIVE CASING, TOP (FT): 2.5 (FROM GROUND SURFACE)
SURFACE CASING (STICKUP), TOP (FT): 2.0
SURFACE CASING, I.D. (IN): 2" TYPE: PYC.
L SURFACE SEAL TOP (FT): 1.0 TYPE DON-Shrink coment
TYPE Sheet
PROTECTIVE CASING, BOTTOM (FT): 2.5
IF SECONDARY CASING, TOP (F1): BOTTOM (FT):
SECONDARY CASING, I.D. (IN): TYPE:
CENTRALIZER, O.D. ((N): 7" TOP (FT): 43.2 BOTTOM (FT): 43.7
GROUT SEAL TOP (FT): 1.0' TYPE: Bentonite Growt
BENTONITE SEAL TOP (FT): 42.9 TYPE BENTONITE PELLETS
BENTONITE SEAL BOTTOM (FT): 46.5
FILTER PACK, TOP (FT): 46.5
FILTER PACKTYPE 16-40 Silica Sand BRAND: Colorado Environmental
SURFACE CASING, BOTTOM (FT): 48.7 SCREEN, TOP (FT): 48.7
SCREEN SLOT SIZE (.000 IN): 0.010 SCREEN, I.D. (IN): 2"
SCREEN, BOTTOM (FT): 68.7 TYPE SCH 40 PVC BRAND: TITAN
SUMP, TOP (FT): 68.7 TYPE 2 Sch 40 PVC
FILTER PACK, BOTTOM (FT): 71.0
BACKFILL, TOP (FT): 71.0 TYPE Bentonite Pellets
BACKFILL, BOTTOM (FT): 92.0
SUMP, BOTTOM (FT): 30.7 ALL MEASUREMENTS WILL BE MADE FROM
TOTAL DEPTH (FT): 72.0
REMARKS: 0.3 end onp; 20' shotted screen:
all sofe were followed in installation procedures.
COMPLETED BY: Jennifer A. Higgins DATE: 06.9094
CHECKED BY: Stephen M. / YM DATE: 01/8/94

THE COUNTY OF THE

Form GT.68 U.S. Department of Energy Rocky Flats Plant (Rev.3) ORR 3/3/194 Groundwater Monitoring Well and Piezometer Report LOCATION CODE:_ 0U-11 WSF SCREENED FORMATION: _ DRILLING CONTRACTOR: Wester Development Corporation DRILLING METHOD: _ DATE COMPLETED: DRIP94 DATE DRILLED: 109/1994 RIG GEOLOGIST: LOGGING GEOLOGIST:___ COMPLETED DEPTH (FT): . ESTIMATED DEPTH TO BEDROCK (FT): Alat Chrountered BOREHOLE DIAMETER IN SCREENED INTERVAL (IN): _ INITIAL WATER LEVEL (FT): ___23./3 DATE MEASURED: _082394 QUANTITY OF FLUIDS LOST DURING DRILLING (GAL); _ COMPLETED WATER LEVEL (FT): DATE MEASURED: _ PROTECTIVE CASING, TOP (FT): 2.5 __ (FROM GROUND SURFACE) SURFACE CASING (STICKUP), TOP (FT): 2.0 1.0 TYPE: non-shrink cement SURFACE SEAL, TOP (FT): PROYECTIVE CASING, I.D. (IN): 6.0 TYPE Mild-Steel PROTECTIVE CASING, BOTTOM (FT): _ SECONDARY CASING, TOP (FT): ______ BOTTOM (FT): _____ APPLICABLE SECONDARY CASING, I.D. (IN): _____ TYPE: ____ ____ TOP (FT): ____ BOTTOM (FT): _ TYPE Pane Gold To Bentonite - Coments 5.0 GROUT SEAL, TOP (FT): ____ TYPE Volcton Pure Gold "" Pentonite Tablets BENTONITE SEAL TOP (FT) 5.0 BENTONITE SEAL BOTTOM (FT): _ 1. 2. 101 39 . 112 FILTER PACK, TOP (FT): FILTER PACKTYPE: 16:40 Schico Sand BRAND: Colorado Environmental Media SURFACE CASING, BOTTOM (FT); 10.0 SCREEN, TOP (FT): 10.0 SCREEN SLOT SIZE (.000 IN): 2.010 SCREEN, I.D. (IN): 2.0 SCREEN BOTTOM (FT): 20.0 TYPE SCh 40 PVC BRAND Titan 20.0 TYPE SCh 40 PVC SUMP, TOP (FT): _ BACKFILL, TOP (FT): 21.0 TYPE Volclay Pure Gold in Pentonite Tablets BACKFILL, BOTTOM (FT): 22.0 ALL MEASUREMENTS SUMP, BOTTOM (FT): __ WILL BE MADE FROM GROUND SURFACE. TOTAL DEPTH (FT): _ end cap: 20 sediment sump: 10'screen 10' riser ducing drilling, sampling and installation Hiroins for S. Lynn COMPLETED BY: 1 DATE: 082394

数一进分词 化自己混合 医氯化二氯二磺酚

3 P. 04 FORM GT.1A (REV. 2)

							BO	REHO			
	rehole cation			<u></u>	<u>5(4)6</u> Ea:			······································		Surface Elevation:	
Da	te:	0	6229				150	7		Total Depth:	1
Gia Dri	ologis Ning E	t: quip,:	Peso	Save	Son		101	Signic, J. Dery		Company: Stricks of Project No.: Court	
1	AG I		ING	' n#	ERYI		_			DATE <u>8/19/94</u>	
-	15	₩ ≠ €	Ī				1	- E	T is		
TOPROTTO OF CORE	TOP/BOTTO OF SAME INTERNAL	Marian Ma Marian Marian Marian Marian Marian Marian Marian Marian Marian Marian Marian Marian Marian Marian Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma	SAMPLE NUMBER	PRICTURE	PENDER ANDLE	SCHOOL STEEL	SOURCE SO	PEPTH FEET	SOIL/ MINOLOGIC	SAMPLE DESCRIPTION Soundy graves with some sult anni-trace clay.	
6,6	0.0					SING Grove		D:0	H.	Control graves: Oark grayish brown (10 YR 4s) to brown (10 YR 4f) lasts to ya" (graves and cobbles); sands fine to course)
	'	25	12			34/96 5pmd		-		my master to wall graded Gravels subrounde	B to
	32	32	7	ĺ	278 abs	18 402	KJM	L 1 -		dominantly subanquiar Law Plushinty, Enwels most	ľ
	6,	20.27	840007457					1.4		Schist preiss, quality to plusticity, Enurel's most fraging into the apparent bething to the dark and into the dark and the same and th	sandy way
Box	4	7	8		24/2		C	1.75		Brigging, The honoration in a month water Chamber with some	Silf-trace
V18	1-2-0-				592		*	├ ~~	YOG	The prides Ale bedding; see Hered alay pockets On to	WHILDONE
<i>'</i>		35	L		1	2072		L		and the state of t	Clay trace
	4.	55	\$2		57Eath	1175-64 1175-64	465 465	, k		goess and quarter to the Gray Clack merently school	Ċ
	67%	8	HODOYSST		ĺ	1972 1972	1 10	—3 —		TO YET Shortly maderant and the property of the period the period to the	ENT WACETE
l			64		Fore or	Stands	ac	<u> </u>		very fine to very coarse sand with the coarse of all all the coarse of all all and a with the coarse of all and a with the coarse of all and a with the coarse of a coarse of	Water Contract
4.0	40	<u>, </u>	- 2		AND DAY	-		<u> </u>	VOC	one 33 school of anite; sand mostly quarter and re-	6-21 Lb. 120
,					112-014	12% 6492 cal	314	7 T T T T T T T T T T T T T T T T T T T		The to the state of the second	eit touce
ł	Fain		ST		Phone	1 1 1		-4.6 -		20 DON ASSESSIONS . WAS CONTRACTOR TO LEGISLANDION.	STATES ALICAN
	3	2.8	37.6			46 % Oravel	li ii z			Commonth means to coarse, went groces, creavels	clay trace.
Вох			3H000765T			49% Conti	G-M	J 5.		Subtraville Law plasticity Gravels quartells schot; Sands deminantly quality its, top 1 of 17 terus ence to 1012 present, traces of challes	o. d
,			ठ			44		5.75		MAN TO LONG STORY AND STORY OF THE AND S	Carbonage
2/18	4.0					4%	1.11	⊢ 6−	YOC	Fearids	
	RUN		5			dlay,					
	4	1.4	1.					4,5			factions
			BHOOD 7			doz grave i				G. S. Mile Many sand: Pak Dive 5198) to vellewith, brown (10 42 Dis) Carse gravel with class up to 1); sand very fine to yen (carse, well graded.	Clay trail
			¥			238 238		├		VO COLO ISTOROLI VALATIO	<u>.</u> ,,
. ል.ጽ.	8.D.					chy l		7.75 - B -	yoc	Gravels on low subtribute: Sands lingular to subtribute of ravels mostly quartite; surals quarte.	,
	•		بر			2%+iH	GC	, ט		No apparent bedding. Dry.	. :
*Box	RW	(.9	8Hccoc1351					<u> </u>		The second secon	
3/18	5 -504	1.4	8			475 150	4	-a-			. '
	なだが		운]					9.4			
	le		Ω.				GM	- <i>9.75</i> (0	YOU	see page 2	
NOT	ES: G									7.i. 5. #	
								me instead easuremen			
										urements not possible.	

SEP- 6-94 TUE 16:05 ERPD/EOM F U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

FORM GT.1A (REV. 2)

		⟨Y • Num	FLA		149¢		BO	REHO							
Lo	cation	- Nor	th:		_£a	st:				Surface Elevation: Area: OUN -1100-6-5-7011 Fig.k)					
	ite:		2301)			Total Depth: 7.2.0					
Dr	Geologist: d. Literange (1) Poulance Drum Room Company: Ground Project No.: ALLI Sample Type: Continuous Cong.														
	EG&G LOGGING SUPERVISOR														
4	APPROVAL S. M. Jans DATE 8/19/94														
Ē# s	E S	10 Eq.	9.5	¥ 4	24	₩Ž		3.	9						
PASOTA PESON	0840		SAMPLE NAMBER	FRACTUR	BEDGINE	SPARN SIZE CHETHIBATION	Sympon Sympon	PHEN THE	SOIL/ LITHOLOGIC	SAMPLE DESCRIPTION					
F_		E. S	 	<u> </u>	L.,	"B		10	54						
Pox	l	.]	<u> </u>				}	. "		Energy Sand with some sult and trace glad					
3/18	Run 7	1	H0008451				l	 		(7.5 YR 5/6) to Yellowish brown (10/R 5/6).					
(conty)		3.65	Ŋ		1		-	_//_		Cobbles up to 7", coarse gravels : cands					
	l	1	ĬŽ		1] .	1			Cobbles up to 3", coarse gravels sands way fine to very coarse mainly fine.					
	ł		ā		. 85	<u> </u>	(پستیدو	11.75		Well graded. Grave subrownded to					
	 	-			0.	181M		_12_	V CC	l Supungular Sand Subraundin To					
l]	8		1 1	32%	19)	foatSille		angular Gravel mainly quartzite;					
1	Run B	1.3	2 2		14	gravei		_		sards quarte with trace of staining at					
	- 7.0A	<u> </u>	18 E		r ek	60%		13		9.6 feet. No bedding Rock flage present in 11-12 and 13-14 foot intervals.					
Box	Run]	lğ g l		3.5	Sand	<i>P</i>			No bedding. Slightly moist.					
	9	1.0	Blocosost 84coosssrup)				GM		HI	et.					
4/18			I T. I		;	6%	don 1								
	Kun 10	.5	pie	1		511+	: r		1417	\$					
	Qu.	-		į	100	2%	. e	⊢ ⊣		1					
	Street		li	ĺ	1	Clay	. I	15		grad:					
	KZUN	30	li	Ì	1.		1	_/3							
	11		ĺi	[
			عرو	Ì	14.4										
			****					/6		<u>.</u>					
	Rur	1.3						- 4		· · · · · · · · · · · · · · · · · · ·					
	12		1	1				خرن							
5					- 1			17.2		17.2-39.0 With some clay trace 24.					
Box	iZun	1.5		I	ı	.28 <u>%</u>	ļ			Clayer gravely said strong brown					
z Jo	13	1,2			4	grove!	1	17.75	///	(₹.59R%6) to dark red(2.5VR~1/6)					
5/18					I	sard	sel	- /9- <u> </u>	對	with pale olive (6443) present in					
	_ 1		51	1	1920	elay	70		33	17.2-20 interval. Gravels up to 2"; sands fine to coarse. Well graded					
į	RW		28.2	- 1		38.0	.			Gravels subrounded to subanoular					
	14	23	Ö	į		silt	-	—19—E		argulae where broken during drilling					
	۲		зносов	1	- 1	. 4		E		Gravels subrounded to subangular angular where broken ouring drilling, sands dominantly subangular. Gravels dominantly quartite; sands					
			w [. [.	. [dominantly airms it is a					
N/OT			UPCC	—— <u> </u>				<u> </u>		dominantly quartz. No bedding. Moist.					
NUII	NOTES: General: USCS is modified for this log as follows: Materials amounts are estimated by % volume instead of % weight.														
	(1) Badiy	/ broker	core, i	accura	ite foots	ige ma	acurements	not p	ossible.					
	(2	, core	preaks	cannol	DO INS	arched,	accura	te footage i	THE PEU	rements not possible.					
						777				With the same of t					

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

FORM GT.JA (REV. 2)

Boo Lox Dat Ge Dril	rehole ation le: 🕰 ologis ling E	Numti - North (0.2.3 t: D/ quip.:	94 24 24 24 25 25 25	5 - 0 2 300	49. 624 1901 ant	4 194 - S	ВО	REHO		Surface Elevation: Area: _OUII U29+ Sproy Field Total Depth:72.0 Company: _Stollex
	PRO		-\$1	M.	•	كمدح	-			DATE 8/19/94
TOPRECTION OF COPE WEST	TOPROTION OF INTERVAL	PEET OF CORE NINEERON. (PRED NEXAMEMENT)	SAMPLE	FRACTURE	BEDOWG	SCHUMPINGS:	USCS		SOLU LITHOLOGIC LIDG	
BOX UNS	Run 18	2.65	(contid)			M. maray	t install	- 21	1	Gravelly sand with some clay and trace suff. Same as above (see pg. 2)
DIE.	Run 16	2.5	SH000825T (14704 1	Example 1			
No.	Run 17	١.	<u></u>		: : : :	28% gravel	se.			16 16 You
BOX 7/18	Run 18	2.5			1996	SAN CION CION SAN CION SAN CION SAN CION SAN CION SAN CION SAN CION SAN CION SAN CION SAN CION SAN CION SAN CION SAN CION SAN CION CION SAN CION CION CION CION CION CION CION CIO		25-	71 1 2 4 7	
25	Run 19	2.2.	DOSTST							
Bcx 8/18	SCD Estan	2.3	O O O HE		e e e e e e e e e e e e e e e e e e e	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	20 mm	19_		VDA
NOT	N (1) Bed!	s amou y broke	ints are	estima , accum	ated by ate too	% volu tage m	ıme instead v asure men	ts not	weight, possible, urements not possible.

SEP- 6-94 TUE 16:06 ERPD/EOM
U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

33 P. 07 **FORM GT.1A (REV. 2)**

							BOI	REHO	'		
		Numi - Norti	1:		En					Surface Elevation: Area: OUT West Spray Field	
Da	te:	t:	627	94			وتح	 .	. 1	otal Depth: 72.0	
Dri	Mng E	uip.:	Resort	ant:	Segle	ന്ന	200	<u> </u>		Sample Type: Continues Serve	
EG	iag I	OGG	ING	ŞUP	ERV	SOR		_			
AP	PRO	VAL .		1. <i>M</i>		an	5			DATE	
PW.	2 2	SE SE	¥ 55	¥.,,	9 4	NŞ		3.	<u> </u>		
2 8 3 2 8 3 2 8 3			33	FRACTUR	MAZIE	\$ E	200	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SOLU LITHOLOGIC LOG	SAMPLE DESCRIPTION	
=	F -	E= 0				- 8	- "	30			
Box				1					1	Dev	
8/18 60776	21 21	3.0				1		Γ -	2	DRY	
٠,٠٠	1 2					<u> </u>		91-			
	 						e leta	,-	1		
						MOEV.		28-	5		•
	RUN					k + 1 + 1	g grandens. Out of the	1 - 2 - 2 - 3 - 1		A.	
								- ' -		Artista Like 1	
	-2,2	20	2		4	28%		3 3			
Box			S S			grave					
9/18	1	٠	ğ		,	Synd	× 1,		C	44. 建筑1	
BLE			ВНЬОСЯОST		192.	£886.c	SC	34		Same as above Gravely fand with	
			Þ		-	chy				moist to dry. Very large broken	
	RUN	3.7			.28	36-0 5(H	P	_9<_		boulder (-4") 35.6-36.8%	
	23	5.1			i	2017					
									2		
	 						we en and	_24_	Voc		
					40.00					 Di	
					1						
	RUN							-2 7-			
Box	24	5.0	5.		į			_ =	1	•	
			B HOOO91					_7 8			
17/18			Ď					2.0			
			Ť					_	20	with some or it and had	r els.
	,		bo		4). 21	20°E.,		_29_		34-41 STOURTH SALT YELLOWS POOR (CY	
	الواه	a 5				o ovel				to Velliaush red (578 = 12) Gravel up to 2"; met average 12", some very fine to very course (dominantly time). Well graded. Subround	
	.25 Ooms	5.0				1 % eller	2MC	- 1		coarse (dominantly time). Well graded. Subround to subangular gravel, sand subangular.	ied
NOT	E8: G	eneral	USCS	is mo	different f	or this i	op es k	allows.	144 1 14	Graves dominantly queet 21 te; sarys dominan	£4
''''	A	fatorial:	ar nou	ints are	estima	ated by	% volu	me instead	d of % w	eight.	, . •
								rasuremer ste footage		ossible. Perments not possible.	
i40/1-930-i	0134-930x	oras OT.LA	Y03/01/93	3				-			

SEP- 6-94 TUE 16:06 ERPD/EOM

P. 08 FORM GT.1A (REV. 2)

, 000	ocatio late: late: leolog rilling	ie Nur n - No oei ist:i Equip.	nber: rth: 27-9 <(ce 7	Ea Sport	st: (na 7	? <i>ig</i> ov	REHC	1	LOG PAGE 5 OF 8 Surface Elevation: Area: OU II West Spray Told A Total Depth: 72.0 Company: Stoller Project No.: Ou II Sample Type: Continuous Cons
	PPR			SUP 1.1		SOR Jan				DATE 8/19/94
TOPROTION OF CORE	MOTTOPPORT PO	PET OF COPE IN INTERNAL FELD	SAMPLE SAMPLE MUNBER	PRACTURE	MEDDING	DISTRIBUTION	TO SOEN	DEPTH IN	IOU Liftelogic 106	SAMPLE DESCRIPTION
Box 14/1	Rus	H. F.	8	SHOOT.		28% gravel	3M	-4-		same as above (see pg.4) state gravelly sand with some sult trace day with some clay trace sult elege gravelly sand 4) are strong brown (7.5 yr \$16) to dark red (2.5 yr \$16). Gravels up to 2" present in top 1 of interval, sands fine to course interval,
	RUN 27	3.0			1	50% Sond Sex Chy 3% SUL	5C	-43 -43		fine to coarse. Well graded. Gravels subsounded to subangular sands dominantly subangular. Gravels dominantly subangular. Gravels dominantly subangular. Gravels dominantly subangular. Very dry to slightly moist.
130x 12/18	Ru/ 28	5 ,0	HOD(-44- - 15- - 16-	X	
			æ					-47	YOA	with some clayanc trace sil
35 P. C. S.	EUN 29	5 .0	B#0009351				3C.	49 17		noist.
NOT	M: (1	atenais Badiy	amoun broken	COTO, AL	Stirnate Courada	id by % I footan	volume	instead o	met man	iht. sible. Ments not possible.

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

33 P. 09 **FURM GT.1A (KEV. 2**)

Bord Local Date Geo Drill	rehole cation - te: ologist: lling Eq	Numb - North 062.7 t: <u>-17</u> quip.: _	h:	Se iomal	SILIA Ens Tay	다 st: upon i	Rgn	REHO	8	Surface Elevation: Area: (X) (X) Springfold Total Depth: (7.7.9) Company: Stolle(Project No.: (X) Sample Type: Continuous (2009)	
	PROV	LOGG VAL _	ING:		Ala	SOF		·		DATE	l
POPROTTON OF CONE IN BOX	TOPEROTTONS OF INTERNAL	PEET OF COME INSPESSMENT PRELD VENSUMEMENT	SAMPLE NUMBER	PACTURE	DEDONG ANGLE	GPAN SEZE DISTRIBUTION	UBCS	M HAEL	BOIL LITHOLOGIC LDG	<u> </u>	l-traces
Box 13/18 Contil Box 14/18	29 Conti	5ee 79:5	BHcoo43डा							eleget gravelly sand (as above - see page 5).	
Bc× 15/18	RUN 30	5 :15	B#000945T			75% 500 18% Clay 7% 5.11		-55- -55- -56- -57- -57- -58-		eight some silt clavey sand strong brown (7.548 5/6). Fine to coarse sands, mainly fine. Well graded. Subanquiar. Quarte. No bedding. Moist. eight gravely sand (as above) with some clayord.	rocesiH.
NOT	N ((1) Bedi	ils amou ily broke	ken core	re estima e, accur	nated by trate foo	y % vok otage m	iume instead measuremen	ents not		

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

FAX NO. 303 966 6533 P. 10 FORM GT.1A (REV. 2)

Loc Date Geo	cation - ite: <u> </u>	- North <u>1: مری</u> ائنے:	h: <u>994</u> 1011	denns	PLA LUGU Eas Sonic	st:		REHO	7 C	Surface Elevation: Area:OU \			
	&G L			SUPE	ERVIS	SOF				DATE _8/19/94			
KOPBOTTOM OF CORE MESOK	TOPROTION OF HATERAM	PEET OF CORE WINTERAM. PRELD HEASUREMENT	SAMPLE	FRACTURE	BEDDING.	GRAMM SIZE DISTANSALTION	USCS	H H.	SOLU LITHOLOGIC LIDG		mcesik		
								-6/-		Chargey gravelly sand (as above) see pg. 6. Gravel up to 4."			
Box	Ein 31	5.0				1650M		-62-					
3960							SC	65		ま映 (で) (で) (1) (1) (1)			
		-				975 91 197 45 198 - 198 198 - 198	m i s	lolf-		Classey gravelly sandwith some clay	racesil		
Box	RUN 32	1 1	SAMPLES			The state of the s				(see page 5) including pale olived (BY 4/3). Wet to saturated.	lay.		
17 18 18	Run 33	4.0	δ		10 mm			67		with trace ≈ 1t			
	RUN	3.0			4	3/4	GW	68		Sandy gravel. Reddish ye llow (7.5 1/2 4/6) Gravels 2 4": sand Jubangulay to subrounded mainly quarteite gravels, quarte sands No bedding. DRY, yorth some clay to	ace zilt		
Вых	Rin 35	2.0			19%.	en % grave scrip s				C7.5 VE Gotto dour red (2.5 VE Got Strang brown) C7.5 VE Gotto dour red (2.5 VE Got Grand 5 upto 2" sunds time to coarse upon grands dominantly subangular & substant ded; sunds dominantly subangular & revels dominantly quartently subangular & revels dominantly quartently sunds dominantly grants. Moist to Dry.			
188	RUN 36	2.5			or Obs	100 % 100 % 100 % 100 %		-		Top of bedrock. Chay tong (6/4/3) Social dianstone. Pale office (6/4/3) Fe-oxide staining. Porosity & 10% No cement. Noticeable. No bedding			
NOT	NOTES: General: USCS is modified for this log as follows: Materials amounts are estimated by % volume instead of % weight. (1) Badly broken dore, accurate footage measurements not possible. (2) Core breaks cannot be matched, accurate footage measurements not possible.												

SEP- 6-94 TUE 16:08 ERPD/EOM

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

9 P. 11 FORM GT.1A (REV. 2)

Loc Det Ge Drii	etion e: ologis ling E	- Norti OG t:/ quip.:	LA Der: LAS LE J LE J	ر العب د حدم	_Ea	st: 	ina f	REHO	. :	Area: OUT West Stauffold Total Depth: 72.0 Company: Smile Project No.: OUT Sample Type: Communicate Communications
			×		.[fa					DATE 8/15/94
TOP/ROTTOM OF COPE INBOX	TOPBOTTON OF INTERNAL	FEET OF COME NINTERFAL (FIELD NEARUPENENT	S.M.MPLE JALMBER	PROCTURE	PEDDING	CHARMENZE SIETHEOTION	PARTO PARCO	OEPTH IN	SOIL UTHOLOGIC UDG	SAMPLE DESCRIPTION
COUP 18 of 18 of	12UN 36	362 Gg. 7	ND SAMPLES	•		200 m	lan agrae	-71 -		See pg 7.
										Total Depth = 7.2.0
NOTE	Ma (1)	terinis Badiy	broken	ts are d Core, i	estimat accurad	ed by 3 le foots	é volúr ide me	ne instead : 22Urement	s not o	eight. ossible, rements not possible.